August 3, 2015 Comment Letter EXHIBIT 1



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Via email and hand delivery

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OBJECTIONS TO DEQ'S ACCEPTABILITY DETERMINATION FOR RE: ROSEBUD AREA B EXPANSION

Mr. Yde

Please accept the following comments on behalf of the Montana Environmental Information Center and the Sierra Club (Citizens) regarding DEQ's acceptability determination and checklist environmental assessment for the Rosebud Coal Mine Area B Amendment AM4. The Citizens incorporate by reference our comments on recent proposed federak lease modification for the Rosebud Mine.¹

I. DEQ MUST REFUSE THE PERMIT AMENDMENT

1. Current Violations of Environmental Laws

a. Absaloka Mine

Montana Code Annotated § 82-4-227(11) provides:

Whenever information available to the department indicates that a strip- or underground-coal-mining operation that is owned or controlled by the applicant or by any person who owns or controls the applicant is currently in violation of Public Law 95-87, as amended, any state law required by Public Law 95-87, as amended, or any law, rule, or regulation of the United States or of any department

¹ Letter from MEIC & Sierra Club to Nate Arave, BLM (Oct. 10, 2014) (attached as Exhibit a).

or agency in the United States pertaining to air or water environmental protection, the department may not issue a strip- or underground-coal-mining permit or amendment, other than an incidental boundary revision, until the applicant submits proof that the violation has been corrected or is in the process of being corrected to the satisfaction of the administering agency.

Western Energy Company (WECo) is a wholly owned subsidiary of Westmoreland Coal Company. Westmoreland also owns and operates the Absaloka Mine in Hardin, Montana. The Absaloka Mine is in current violation of the Clean Water Act (CWA) and has been in violation of the CWA for every quarter (save one) for the past three years. Indeed, the unbroken three-year stream of violations seems to demonstrate a "a pattern of willful violations," which further precludes DEQ from issuing a permit to WECo for further strip-mining at the Rosebud Mine. § 82-4-227(12), MCA.

b. Rosebud Mine

Evidence available to DEQ also indicates that WECo is currently in violation of the Surface Mining Control and Reclamation Act (SMCRA) and the Montana Strip and Underground Mine Reclamation Act (MSUMRA). ARM 17.24.631(1) provides: "The permittee shall plan and conduct mining and reclamation operations to minimize disturbance to the prevailing hydrologic balance and to prevent material damage to the prevailing hydrologic balance outside the permit area." *Accord* 30 C.F.R. § 816.41. Material damage is defined by statute to include "[v]iolation of a water quality standard." § 82-4-203(31), MCA.

Here, abundant evidence before DEQ indicates that WECo is causing violations of water quality standards. According to DEQ's 2014 Final Water Quality Integrated Report, the principal stream impacted by the strip-mining operation, East Fork Armells Creek, is currently not meeting water quality standards.³ No portion of East Fork Armells Creek is within the permit boundary. DEQ has determined that the upper portion of the creek is not meeting water quality standards due to "alteration in stream-side or littoral vegetative covers," caused by "surface mining." DEQ has also determined that the lower portion of East Fork Armells Creek is not meeting water quality standards for Nitrate/Nitrite, nitrogen, specific conductance (SC), and total dissolved solids (TDS) and that the cause of these violations of water quality standards includes "coal mining." WECo is clearly responsible for all violations of water quality standards in the upper reach of East Fork Armells Creek. Indeed, WECo acknowledges that an upper section of the creek in Section 15 was intermittent in 1986 and that recent surveys indicate that it is now

² EPA, Enforcement and Compliance History Online, Westmoreland Resources, Inc.—Absaloka Mine, *available at* http://echo.epa.gov/ (attached as Exhibit 1).

³ DEQ, Final Water Quality Integrated Report, app. A at A-158 (2014), available at http://deq.mt.gov/wqinfo/cwaic/reports.mcpx.

dry.⁴ "Given the decreased water levels in alluvial wells between Areas B and C, it is possible that the change in flow is a result of mine related dewatering." Removing the water from a creek also removes all designated uses associated with that creek, in violation of water quality standards: "Where augmentation of stream flow and stream underflow is reduced because of the lowering of the water table and the lack of discharge into streams from underground sources, aquatic life will be affected as well." Because this portion of the creek is outside the mine permit boundary, the dewatering of the creek by WECo constitutes material damage outside the permit area.

WECo is also, at the least, a contributor to the violations of water quality standards in the lower reach of East Fork Armells Creek. Indeed, WECo itself concludes that saline water from coal spoils will, alone, be responsible for a 13% increase in TDS levels in the alluvium. WECo also identifies ammonium-nitrate explosives from blasting as a contributor to elevated nitrate plus nitrite nitrogen levels in the East Fork Armells Creek alluvium. Further, it is clear that DEQ also believes that WECo is causing material damage to the hydrologic balance outside the permit area, which the agency is discussing with WECo, while hiding the issue from the public. 9

Because there is abundant information available to DEQ indicating that WECo is violating MSUMRA (as well as the Clean Water Act), DEQ must refuse WECo's application to expand mining operations in Area B.

2. The Mine Is Not Designed to Prevent Material Damage to the Hydrologic Balance Outside the Permit Area

MSURA requires an applicant for a mine expansion to "affirmatively demonstrate" that

assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance has been made by the department and the proposed operation of the mining operation has been designed to prevent material damage to the hydrologic balance outside the permit area

§ 82-4-227(3)(a). The PHC fails to make this required determination.

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⁴ Comprehensive Evaluation of Probable Hydrologic Consequences Areas A, B and C: Western Energy Rosebud Mine at 28 (Jan. 2014) [hereinafter PHC]

⁵ PHC at 28-29.

⁶ National Research Council, Coal Mining and Ground Water Resources in the United States 146 (1981) (attached as Exhibit 1a).

⁷ Addendum to the Comprehensive Evaluation of Probably Hydrologic Consequences Areas A, B, C: Western Energy Mine, Attachment 1 at 29 [hereinafter PHC Addendum].

⁸ Comprehensive Evaluation of Probable Hydrologic Consequences Areas A, B and C: Western Energy Rosebud Mine at 58 (Jan. 2014) [hereinafter PHC].

⁹ Memo from Dicki Peterson to Daniel Munoz (June 13, 2014) (attached as Exhibit 2).

a. The PHC Does Not Affirmatively Demonstrate that the Cumulative Impacts of Strip Mining Will Not Cause Material Damage to Ground Water Outside the Permit Area.

With respect to groundwater, the PHC recognizes that TDS levels in the spoils will be "two to three times that of the baseline coal groundwater." WECo acknowledges that this will "likely result in deterioration of groundwater quality within some areas of the mine backfill to a degree that will require at least temporary reclassification of the groundwater to a lower usage class."11 DEQ's draft checklist environmental assessment (checklist EA) also recognizes that "groundwater class may change, typically from Class II to Class III." The PHC attempts to minimize this change by asserting that the degradation of groundwater is "not expected to negatively affect existing uses." That, however, is not the standard for assessing material damage to the hydrologic balance. Montana law requires a showing sufficient for DEO to determine whether any water quality standard will be violated, regardless of impacts to existing uses. § 82-4-203(31). The narrative standard for groundwater is written in terms of designated "beneficial uses." ARM 17.30.1006(2)-(3). These standards prohibit pollution that will be "harmful, detrimental, or injurious" to designated beneficial uses. The degradation of high quality Class II groundwater to low quality Class III ground water limits or eliminates all beneficial uses of Class II water. Compare ARM 17.30.1006(2)(a), with ARM 17.30.1006(3)(a). As such, this degradation is "harmful, detrimental, or injurious" to these uses.

The PHC attempts to minimize this degradation of high quality water by reference to Clark (1995) for the proposition that "dissolved-solids concentrations may decrease as water moves from the backfill into the un-mined, down-gradient coal." PHC at 13. This, however, is a blatant misuse of Clark (1995). That study specifically considered whether high concentrations of TDS in spoils water at the Big Sky Mine in Colstrip, Montana, would decrease as it moves into unmined coal. The conclusion: "As water flowed from the spoils aquifer to the downgradient coal aquifer, the dissolved-solids concentration essentially was unchanged" and "[A]long a path from the spoils aquifer to the downgradient coal aquifer, dissolved-solids concentrations were unchanged and concentrations of most dissolved ions were relatively small and probably not solely related to geochemical processes." Ultimately, what Clark (1995) shows is that the high TDS spoils water from the mine area will likely migrate beyond the mine

¹⁰ PHC at 13-14.

¹¹ PHC at 14. Very unhelpfully, WECo describes salinity of ground and surface water in units of TDS. *E.g.*, PHC at 32. Groundwater classifications, however, are made, however, with respect to specific conductance (SC). ARM 17.30.1006. DEQ's checklist environmental assessment does not include any numeric values for background, current, or projected water quality.

¹² DEQ, Draft Checklist EA at 4 (July 8, 2015).

¹³ PHC at 59.

¹⁴ David W. Clark, Geochemical Processes in Ground Water Resulting from Surface Mining of Coal at the Big Sky and West Decker Mine Areas, Southeastern Montana at 16, 41 (1995) (attached as Exhibit 3).

permit boundary and that the high TDS levels will cause degradation of water quality outside the permit area.

Further, neither the PHC nor DEQ's draft checklist EA addresses the best science about sulfate impacts to livestock. The PHC states that the sulfate standard for livestock is between 2500 and 3000 mg/L. However, the most recent science shows that sulfate concentrations as low as 1,000 mg/L are harmful to cattle: "Assuming normal feedstuff S concentrations, keeping water SO₄ concentrations less than 1,800 mg/L should minimize the possibility of acute death in cattle. Concentrations less than 1,000 mg/L should not result in any easily measured loss in performance." Sulfate levels in the adjacent Big Sky mine area appear to be routinely greater than 1,000 mg/L. Plus the PHC recognizes that in some circumstances, the increased TDS in spoils water is "mainly due to an increase in sulfate concentrations." DEQ's draft checklist EA does not address sulfate at all. The PHC's failure to use the best science with respect to sulfate impacts to livestock is insufficient to affirmatively demonstrate that the proposed mine expansion will not cause material damage to the hydrologic balance outside the permit area.

b. The PHC Fails to Affirmatively Demonstrate that the Cumulative Impacts of Mining Will Not Cause Material Damage to Surface Water Outside the Permit Area.

Far from showing that the mine will not cause material damage to water quality, the PHC demonstrates that the strip-mine will cause and contribute to ongoing material damage to surface water. As noted, according to DEQ the lower portion of East Fork Armells Creek is impaired for TDS, SC, nitrate/nitrite, and nitrogen. As noted, the lower segment of East Fork Armells Creek is currently impaired due to excessive TDS, specific conductance (SC), nitrate/nitrite, and nitrogen. The PHC confirms that due to continued operation of the mine, TDS and nitrate/nitrite concentrations will increase in the alluvium of East Fork Armells Creek. PHC Addendum ("Once those water levels fully recover, it is estimated that the increase in TDS in the alluvium will be about 13 percent when compared to baseline conditions."); ("Nitrate plus nitrite nitrogen exceedances were found mostly in alluvium along the EFA and spoils wells. The maximum value of 351 mg/L was detected in a sample from alluvial well WA-113. The most recent samples from this well contain nitrate plus nitrite nitrogen concentrations below the DEQ-7 (October 2012 edition) standard. The highest nitrate plus nitrite nitrogen concentration measured in spoils wells is 50 mg/L. High nitrate plus nitrite nitrogen in spoils could possibly be

¹⁵ PHC, Attachment C.

¹⁶ M.F. Raisbeck, et al., *Water Quality for Wyoming Livestock & Wildlife: A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants* at 48 (2008) (attached as Exhibit 4); *see also* Erbs, *infra* at fig. 2 (lifestock sulfate criteria of 500 mg/L).

¹⁷ Clark, *supra* at tbl. 11.

¹⁸ PHC at 26.

¹⁹ Integrated Report at A-158.

due to dissolved residuals from ammomium-nitrate explosives used in blasting coal and overburden.").

Further, WECo's attempts to shirk its responsibility for increased TDS concentrations in alluvial waters are not believable. First, WECo inflates baseline TDS levels in East Fork Armells Creek to 2,299 mg/L. However, the only samples that unquestionably predate mining at Colstrip, which were taken by the U.S. Geological Survey in 1923, had TDS concentrations of 845 and 688. Further, the last time that DEQ appears to have considered the cause of increased TDS concentrations on water quality in East Fork Armells Creek, the agency stated that the baseline average was 2,200 mg/L. ²²

In addition to inflating baseline concentrations, WECo's suggestion that the measured increase in TDS upstream of Colstrip is due to "natural" factors is not credible.²³ First, the increase in alluvial TDS levels is not a recent development but has been documented since the 1990s.²⁴ DEQ attributed this increase in TDS to mining activity:

However, the 40% increase in TDS in the alluvial aguifer observed upstream of Colstrip does in fact appear to be directly associated with mining activity. To investigate whether the increase in alluvial aquifer TDS has resulted from discharge of highly mineralized spoil water, the Department evaluated spoil water recovery and quality data from upslope mining along EFAC. Several graphs showing the recovery curves and associated water quality recorded from spoil wells completed adjacent to EFAC in Area A and Area B at the Rosebud Mine are presented in the Appendix. Review of these graphs indicates that water quality in spoil wells along EFAC, while increasing, is commonly less than the 1995 average measured in the alluvium (3,300 mg/L [Western Energy Co., 1997]). A more likely mining-related mechanism responsible for the observed TDS increases in the EFAC alluvial aquifer is the capture and containment of surface waters in upslope ponds within the mine area. These ponds capture relatively low TDS precipitation and snowmelt runoff, hence reducing the dilution effect these waters would have on the alluvial aquifer system if they were to flow into EFAC. This mechanism appears to be the likely culprit responsible for increasing alluvial aguifer TDS levels upstream of Colstrip.²⁵

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²⁰ PHC Addendum at 16.

²¹ John Wheaton et al., Montana Bureau of Mines and Geology, Spring and Stream Water Quality Powder River Basin, Montana at 39 (Aug. 2013).

Letter from Dan Erbs, DEQ, to Harv Gloe, OSM at 2 (Oct. 1, 1998) (attached as Exhibit 5).

²³ PHC Addendum, Attachment 1 at 16.

²⁴ Erbs, *supra* at 2-3.

²⁵ *Id.* at 3.

The only citation that WECo offers for its theory that the increased TDS levels in the alluvium are "natural" is to an "email communication," with no additional explanation.²⁶

c. Additional Shortcomings of the PHC

In addition to the foregoing, the PHC suffers numerous additional shortcomings that prevent it from presenting an affirmative showing that the proposed mine expansion is designed to prevent material damage to the hydrologic balance. First, the PHC, like DEQ's draft checklist EA, suffers from such generalized vagueness as to be devoid of any informational value to any save industry and agency insiders. For example, the PHC states that TDS concentrations will increase in spoils groundwater "during initial saturation and then decrease to an equilibrium level after one or more pore volumes of water pass through the backfill."²⁷ This may case a "temporary reclassification of the groundwater to a lower usage class." There is no indication, however, about the length of time required for multiple "pore volumes" of water to pass through the backfill. And there is no effort to provide any reference frame for the "temporary reclassification of groundwater." Available research, however, indicates that the passage of a pore volume may take centuries or millennia and that the "temporary reclassification" may last equally long.²⁹ Regarding groundwater quantity, the PHC merely states that "full recovery" "will exceed 50 years in most portions that are mined" and that "[a]lthough it could take considerable time, there is no reason to expect that the regional groundwater flow gradient will not eventually recover because recharge and discharge areas for the principal aquifer will not be affected by mining."³⁰ This lack of provision, if adopted by DEQ, would likely prove unlawful. It provides no helpful information to the public or decisionmakers who might wish to weigh in on the wisdom of this proposed mine expansion. Further, this is because the PHC's ultimate analysis seems to say that there will not be a reduction in water quantity after mining because full recovery is expected at some point before the end of time. It is noted that regarding the Bull Mountain Mine expansion, DEQ has argued that the 50 year horizon is the relevant period for assessing impacts. If that is the case, then the inexorable conclusion here is that the mine will cause material damage to water quantity, as the PHC admits that "substantial residual drawdown is projected to remain fifty years following mining."³¹

In addition to the unlawful vagueness and inconsistency with respect to the time horizons for impacts, the PHC is insufficient because it fails to address the impacts that climate change

²⁶ PH Addendum, Attachment 1 at 23.

²⁷ PHC at 13.

²⁸ *Id.* at 14.

²⁹ William Woessner, et al., The Impacts of Coal Mining on the Hydrologeologic System of the Northern Great Plains: Case Study of Potential Impacts on the Northern Cheyenne Reservation, 43 J. of Hydrology 445, 461 (1979) (attached as Exhibit 6).

³⁰ PHC at 12. The draft checklist EA adopts this wholly unhelpful analysis. *See* Draft Checklist EA at 3.

³¹ PHC at 55.

will have on the hydrologic balance. The entire PHC bases its analysis on a wholly unsupportable assumption of a static climate.³² However, given the reality of climate change, the one thing that is certain is that the climate will not be static. As the United States Global Change Research Program recently wrote, "The past century is no longer a reasonable guide to the future for water management." More heavy precipitation events are expected, drought is expected to intensify, water demand is anticipated to change, and existing patterns of groundwater recharge are expected to change, among other things. The complete failure of the PHC to acknowledge climate change and the ongoing and worsening impacts to water resources renders it inadequate. Of course, this is ironic, since ongoing coal mining and coal combustion is one of the principal drivers of the worsening impacts of climate change.

II. DEQ'S MEPA ANALYSIS IS INSUFFICIENT

The Montana Environmental Policy Act (MEPA) requires DEQ to assess "the environmental impact of the proposed action." § 75-5-201(1)(b)(iv)(A). The draft checklist EA here fails to do so. First, the draft checklist EA fails entirely to address the foreseeable impacts that will result when the mine is burned at the Colstrip Generating Station. Though the EA recognizes that "[c]oal from this mine is used to fuel two of the four coal-fired power plants located in Colstrip." Second, the draft checklist EA fails entirely to assess *any* cumulative impacts, stating incorrectly that the action will have no cumulative effects. This is inconsistent with the statements from the PHC about the cumulative impacts of all mining on surface and ground water. Further, the draft checklist EA fails entirely to assess any impacts of climate change.

II. APPROVAL OF THE PROPOSED MINE EXPANSION VIOLATES THE RIGHT TO A CLEAN AND HEALTHFUL ENVIRONMENT

Approval of this application must be withheld because strip-mining thermal coal for combustion both implicates and violates provisions of the Montana Constitution. Under this constitution, "[a]ll persons are born free and have certain inalienable rights. They include the right to a clean and healthful environment" Mont. Const. Art. II, § 3. The constitution further provides that "the State and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations." *Id.* Art. IX, § 1. Further, "[t]he legislature shall provide adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources." *Id.* Art. IX, § 3. The Montana Supreme Court has held that "the right to a

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³² *Id.* at 16.

³³ USGCRP, Global Climate Change Impacts in the United State 41 (2009) (attached as Exhibit 7)

³⁴ USGCRP, National Climate Assessment 70 (2014) (attached as Exhibit 7a).

³⁵ Draft Checklist EA at 7.

³⁶ *Id.* at 10.

clean and healthful environment is a fundamental right." *Mont. Envtl. Info. Ctr. v. DEQ (MEIC)*, 296 Mont. 207, 225 (1999). Further, "the right to a clean and healthful environment guaranteed by Article II, Section 3, and those rights provided for in Article IX, Section 1 were intended by the constitution's framers to be interrelated and interdependent and that state or private action which implicates either must be scrutinized consistently. Therefore, we will apply strict scrutiny to state or private action which implicates either constitutional provision." *Id.* These provisions are "anticipatory and preventative." *Id.* at 230.

In *MEIC*, the court held that these rights were "implicated" based on the plaintiffs' showing that private action, approved by a state agency would "add[] a known carcinogen such as arsenic to the environment in concentrations greater than concentrations present in the receiving water." *Id.* at 231. Having found that the constitutional rights to a clean and healthful environment and to be free from unreasonable environmental degradation were implicated, the Court then held: "to the extent [a statute] arbitrarily excludes certain 'activities' from nondegradation review without regard to the nature or volume of the substances being discharged, it violates those environmental rights guaranteed by Article II, Section 3 and Article IX, Section 1 of the Montana Constitution." *Id.* This construction of the right to a clean and healthful environment as a "safety net" for resolving environmental problems that legislative and executive bodies fail to address is consistent with international law interpreting similar provisions. *See* Environmental Law Institute, Constititional Environmental Law: Giving Force to Fundamental Principles in Africa 2 (2d ed., 2007).

Here, there is no question that combustion of coal is a principal driver of climate change, which if unabated will radically impact the livability of our state and world.³⁷ As mentioned above, the impacts of climate change are already harming human and natural systems in Montana and across the nation.³⁸ At present, there is no state regulation of the carbon pollution from coal combustion or mining. As such, the mining and inevitable combustion of coal is and will continue to cause unabated GHG emissions entering the already saturated atmosphere. These impacts implicate the all citizens' right to a clean and healthful environment and their right to be free from unreasonable degradation of the "environmental life support system" (as well as DEQ's and the WECo's correlative duties to "maintain and improve" the Montana environment and protect it from unreasonable depletion). Thus DEQ's approval of the WECo's application is

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³⁷ See, e.g., World Bank, Turn Down the Heat: Why a 4°C World Must Be Avoided xv (2012) ("The impacts of the extreme heat waves projected for a 4°C world have not been evaluated, but they could be expected to vastly exceed the consequences experienced to date and potentially exceed the adaptive capacity of many societies and natural systems.") (attached as Exhibit 8); EPA, Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks ES-5 (2013); Drew Shindell et al., Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security, 335 Science 183 (2012) (noting that coal mines are major sources of methane pollution, a potent GHG).

³⁸ E.g., National Climate Assessment, *supra*.

only permissible if it can survive strict scrutiny. It cannot because the pollutants causing the harm (GHGs), like the arsenic pollution in *MEIC*, are entirely unregulated under MSUMRA.³⁹ Until and unless strict scrutiny analysis is performed by DEQ, the permit may not be approved.

This conclusion is consistent with recent the recent unanimous decision from the Hague District Court in the Netherlands that determined that the Dutch Government is violating the rights of its citizens by failing to take action to abate climate change. There, the court stated, in relevant part:

The State must do more to avert the imminent danger caused by climate change, also in view of its duty of care to protect and improve the living environment. The State is responsible for effectively controlling the Dutch emission levels. Moreover, the costs of the measures ordered by the court are not unacceptably high. Therefore, the State should not hide behind the argument that the solution to the global climate problem does not depend solely on Dutch efforts. Any reduction of emissions contributes to the prevention of dangerous climate change and as a developed country the Netherlands should take the lead in this.

With this order, the court has not entered the domain of politics. The court must provide legal protection, also in cases against the government, while respecting the government's scope for policymaking. For these reasons, the court should exercise restraint and has limited therefore the reduction order to 25%, the lower limit of the 25%-40% norm. 40

This analysis applies with greater force in Montana, given the express right to a clean and healthful environment enshrined in our state's constitution. Approval of additional strip-mining at the Rosebud Mine not only fails to assure our right to a healthful environment, it actually undermines it.

Sincerely,

Shiloh Hernandez

Western Environmental Law Center

³⁹ To the degree that Mont. Code Ann. § 82-4-221(1) permits approval of a application for permit renewal without regard to the impacts of carbon pollution, it violates the abovementioned provisions of the Montana Constitution, as applied to this case.

⁴⁰ Urgenda Foundation v. Netherlands, slip op. at 1 (Hague Dist. Ct., Netherlands June 24, 2015) (attached as Exhibit 9).

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on behalf of Montana Environmental Information Center and the Sierra Club